

together so that the ribs are received in the grooves, and heating and exerting forces upon the outer surfaces of the slabs for effecting welding of the slabs at the surfaces of the ribs and grooves and at said land areas.

3. The method of producing a strip having its wider surfaces provided by metal laminations, with a layer of anti-welding material between said laminations and with the laminations integrally connected at the edges of said layer, which comprises milling a first metal slab to provide a longitudinal channel of predetermined width and depth, and with the channel bounded by lateral wall surfaces substantially at right angles to the channel floor, said lateral wall surfaces being joined to upwardly extending beveled surfaces slanting away from the channel, placing an anti-welding material in the channel to the level of said lateral wall surfaces so that the beveled surfaces extend thereabove, preparing a second metal slab with beveled surfaces for conforming to the beveled surfaces of the first slab and with a first longitudinal metal surface area between said beveled surfaces for contacting the anti-welding material, said slabs having second surface areas laterally outside said beveled surfaces for contact when said first surface area is in contact with the anti-welding material, bringing the slabs together so that said beveled surfaces and said second surface areas respectively engage, and hot rolling the slabs for effecting roll welding at said beveled surfaces and said second surface areas.

4. The method as in claim 3, in which at least two longitudinal channels are milled in the first slab with intermediate rib means therebetween, and each channel is filled with anti-welding material, said intermediate rib means extending above the anti-welding material, and the second slab has groove means for receiving said intermediate rib means, the parts of the intermediate rib means above the anti-welding material having convergently beveled walls and the latter said groove means having beveled walls conforming thereto, said rib means filling said groove means when the slabs are brought together.

5. The method of producing a laminate strip having metal laminations separated by a layer of anti-welding material with the laminations integrally joined metal-to-metal along the longitudinal edges of said layer, which comprises preparing two metal bodies, at least one said body having a longitudinal channel, the bodies having interengaging longitudinal ribs on said one body and grooves on the other of said bodies at areas outside said channel, and contact land areas laterally outside the ribs and grooves, filling said channel with a porous extensible anti-welding material to a level below the top of said ribs, bringing the bodies together with said interengaging ribs and grooves in contact with the ribs filling the grooves, welding the bodies together along the longitudinal edges, securing to the ends of the bodies closing members having holes therein aligned with the said channel, hot rolling the edge-welded bodies as a billet whereby the surfaces of the interengaging ribs and grooves and the contact land areas are welded together and air is expelled through the holes, and continuing the rolling for extending the bodies and the anti-welding material and thereby producing the laminate strip.

6. A billet for producing a strip having its wider surfaces provided by metal laminations with a layer of anti-welding material therebetween and with the laminations integrally connected along the longitudinal edges of said

layer, comprising two superposed metal bodies having welded connections along their longitudinal edges, the lower of said bodies having a longitudinal channel in the surface thereof, said bodies having interengaging longitudinal ribs on one said body and grooves on the other of said bodies at areas outside said channel and having contacting land areas extending from the respective ribs and grooves at the sides thereof away from the said channel, an extensible anti-welding material in said channel, said lower body having longitudinal ribs extending along the lateral edges of the channel and having beveled surfaces above the level of the top of said material, said channel being closed by the upper of said bodies, said upper body having laterally spaced grooves for containing and being filled by said ribs, said grooves having beveled walls engaged with the beveled walls of the said ribs for preventing migration of the anti-welding material to the regions of said land areas.

7. The method of producing a strip having its wider surfaces provided by metal laminations, with a layer of anti-welding material between said laminations and with the laminations integrally connected at the edges of said layer, which comprises milling a first metal slab to provide at least two longitudinal channels of predetermined depth and width with longitudinal ribs at each side of each channel and located at the longitudinal edges of the channels and between them, said ribs having walls extending substantially at right angles to the floors of the channels for determining said depth of the channels and having convergently beveled walls thereabove and having flat tops, said first slab having land areas between the side ribs and the respective adjacent edge of the first slab, filling the channels with a slurry of an anti-welding powder in a vaporizable liquid vehicle, evaporating the vehicle, dressing the surface of the deposited anti-welding material until the material has said predetermined depth with said ribs projecting above the surface of said material, cleaning the surfaces of the filled slab, forming a second slab with laterally spaced side and intermediate longitudinal grooves with beveled walls and flat bottoms conforming to said ribs for closely receiving said ribs and having land areas between the side grooves and the respective adjacent edge of the second slab, and superimposing said second slab on the dressed first slab with the walls of the ribs in contact with the walls of the respective grooves and with the land areas of the second slab in contact with the land areas of the first slab, and hot rolling the slabs for effecting roll-bonding of the contacting areas of the slabs.

References Cited in the file of this patent

UNITED STATES PATENTS

491,480	Green	Feb. 7, 1893
1,723,659	Rosenqvist	Aug. 6, 1929
1,765,368	Frahm et al.	June 24, 1930
1,938,633	Maskrey	Dec. 12, 1933
2,498,275	Johnson	Feb. 21, 1950
2,759,246	Campbell	Aug. 21, 1956
2,828,533	Fromson	Apr. 1, 1958
2,906,006	Neel	Sept. 29, 1959
2,961,761	Watson et al.	Nov. 29, 1960
2,982,012	Wilkins et al.	May 2, 1961
2,983,994	Johnson	May 16, 1961

FOREIGN PATENTS

116,061	U.S.S.R.	Dec. 25, 1957
---------	----------	---------------